United States
Environmental Protection
Agency

Office of Public Affairs
Region 5
77 West Jackson Boulevard
Chicago, Illinois 60604

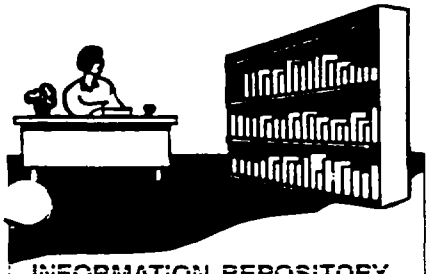
Illinois Indiana
Michigan
Minnesota
Ohio Wisconsin

Superfund Fact Sheet
Vacant Lot Site

North Chicago, Illinois
May 1997

THIS FACT SHEET WILL TELL YOU ABOUT . . .

- Site history.
- U.S. EPA activities there.
- How you can obtain more site information.



INFORMATION REPOSITORY

For more information regarding the removal at the Vacant Lot Site, as well as information about Superfund and the Removal Program, you may consult the U.S. EPA Information Repository at the following location:

North Chicago Public Library
2100 Argonne Drive
North Chicago, Illinois
(847) 689-0125

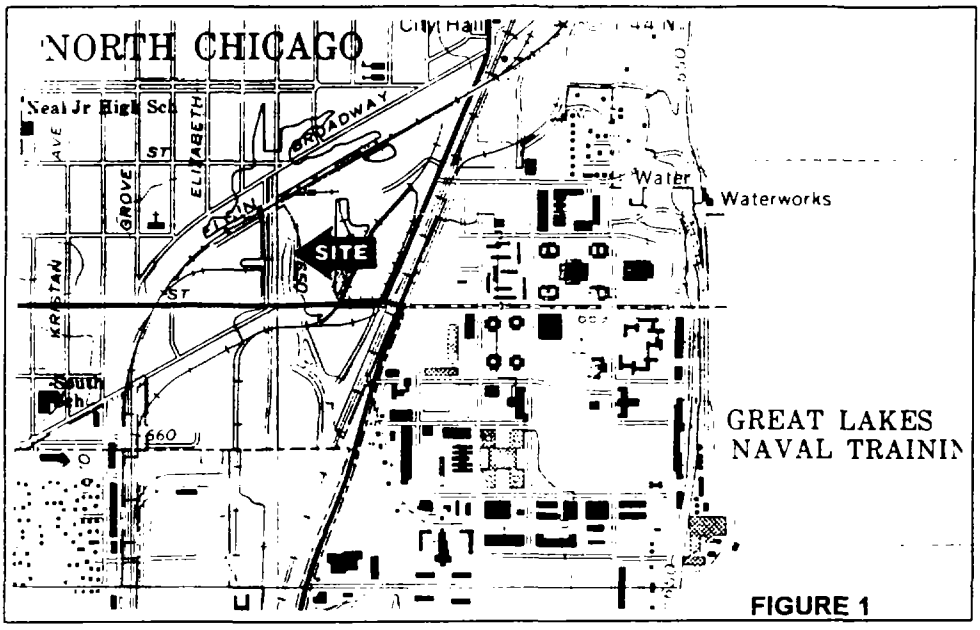


FIGURE 1

Introduction

This fact sheet provides an update on the United States Environmental Protection Agency (U.S. EPA) activities at the Vacant Lot site (site). The 6.4-acre site is located in an urban area in North Chicago, Lake County, Illinois, at the northeast corner of Commonwealth Avenue and Martin Luther King, Jr. Drive (Figure 1). The site is bordered to the north by the Elgin, Joliet, and Eastern Railroad; to the south by Martin Luther King Jr. Drive; to the east by Fansteel Inc.; and to the west, across Commonwealth Avenue, by Emco Chemical Distributors. The site is generally flat with a slight slope towards Pettibone Creek, which flows north to south through the site. Pettibone Creek drains into Lake Michigan approximately 1 mile southeast from the site.

A cinder material exists on the ground surface throughout the site and extends to a depth of 3 feet in some areas. The site is not well vegetated. Portions of the Vacant Lot site are sparsely covered with grass and moss. The ground water, soil, and sediments on the site have been sampled by the Illinois Environmental Protection Agency (IEPA). Results indicated the area is contaminated with **polychlorinated biphenyls (PCBs)**, **polynuclear aromatic hydrocarbons (PAHs)**, metals, and **trichloroethene (TCE)** and its break down products. U.S. EPA is currently conducting an investigation called an Engineering Evaluation/Cost Analysis (EE/CA) under the authority of **Superfund** to determine the extent of threats to human health and the environment that may be present at the Vacant Lot site.

Words that appear in bold type are defined in a glossary on page 3.

Site History

From 1921 to 1936, the site was owned by the Vulcan Louisville Smelting Company. Reports indicate the lot may have been used to store tailing materials from the Vulcan Louisville Smelting Company operations. In 1936, C.N.S. & M. Railroad Company purchased the site. Sometime between 1936 and 1954, the site was purchased by an individual. The individual deposited fill material on site in order to develop the area as a parking lot. The title to the property is currently held by Northern Trust Bank of Lake Forest, Illinois.

In 1988, a fire occurred at the site. The North Chicago Fire Department responded to the fire and determined that the fill material at the site had become heated, igniting nearby brush. The fire area extended approximately 200 feet along a ravine. The IEPA's Emergency Response Unit visited the site on June 1988, to collect soil samples. Analyses of these samples revealed elevated concentrations of metals, including **lead**. Sampling also revealed the soil beneath the ground consists of a black, coarse sand-like material which is similar to fly ash. Fly ash is a byproduct produced by coal burning facilities, sometimes used as a solidifying agent. It often contains high metal concentrations, and therefore may not be suitable to use as fill material for land.

In August 1989, as a result of the 1988 fire and laboratory results from subsequent sampling, the Vacant Lot site became the subject of further IEPA investigations. In May 1993, IEPA collected on-site sediment samples from Pettibone Creek; groundwater samples from on-site locations; and additional soil samples from on and off site locations. The results of the IEPA sampling follow:

- The soil samples collected by IEPA were from on-site and off-site locations near residential properties to the north. One sample was collected from the playground at Neal Elementary School, located approximately 1/2 mile west of the site. The soil sample collected from Neal Elementary School was clean and posed no risk to the community. This sample was used to compare its normal soil composition to the contaminated soil samples on site. The laboratory results of soil samples taken at the Vacant Lot site indicated the presence of metals in excess of U.S. EPA removal action levels.

- IEPA collected on-site sediment samples from Pettibone Creek. An additional sediment sample was collected from Lake Michigan in April 1994 to determine whether contaminants were present downstream of the site in the lake. The sediment samples collected from Pettibone Creek and Lake Michigan contained **volatile organic compounds (VOCs)**, PAHs, pesticides, PCBs, and inorganic compounds (non-carbon based compounds).

- The groundwater samples collected by IEPA are from monitoring wells located on site. The laboratory analyses of the groundwater samples detected the presence of VOCs, pesticides, PCBs, and inorganic compounds.

Summary of Site Risks

The major concern at the Vacant Lot site is direct exposure to on-site contamination, because access to the site is not restricted. The site is used as a throughway to residences and businesses in the area. Reports also indicate it is inhabited by homeless people from time to time. People may be exposed to hazardous contamination through skin contact, breathing contaminated dust particles, or ingesting contaminated particles. Persons may be at risk through direct contact with Pettibone Creek sediments, or through ingesting fish or frogs from the creek. One could also be exposed through use of ground water as drinking water, although records indicate that the residences and businesses in the area use the municipal water systems.

The U.S. EPA EE/CA

U.S. EPA received funding to perform an EE/CA, which is currently being conducted. The purpose of the EE/CA is to evaluate the alternatives of removing potential threats from contaminated sediment, soil, and ground water at the site. From the EE/CA, U.S. EPA will identify the public health and environmental risks, and determine the extent of contamination at the Vacant Lot site. The sampling plan and the first half of the EE/CA were completed in February, 1997. Preliminary activities included: sampling monitoring wells; studying the flow of ground water; developing grids for sampling locations for deep soil sampling; and determining the precise location of industrial discharge points on Pettibone Creek. Once the EE/CA is complete, copies will be sent to the information repository (a file containing information about site activities and Superfund) located at the North Chicago Public Library.

Evaluating the Alternatives

U.S EPA will use three criteria to compare the cleanup alternatives in the EE/CA and to recommend a practical alternative. These criteria are:

1) **Effectiveness** - Refers to the ability of a cleanup alternative to meet the objectives within the scope of the removal action, especially in regard to the protection of public health and the environment.

2) **Implementability** - Considers the technical and administrative feasibility of implementing the alternative, such as the availability of goods and services.

3) **Cost** - Refers to estimated capital, operation, and maintenance cost, as well as present-worth costs. Present-worth cost is an alternative's total cost over time in terms of today's dollars.

Next Steps

The first sampling event for the EE/CA was completed in February 1997. The second sampling event was conducted in April, 1997. U.S. EPA is awaiting the completion of the laboratory sample analysis. The EE/CA is expected to be completed in July 1997, and will include alternative methods of remediation/cleanup if contamination is found. When U.S. EPA selects the cleanup alternative, it will be subject to public comment for a period of 30 days. Also during the 30-day comment period, U.S. EPA will hold a public meeting where the concerns of the community will be considered. The cleanup plan will be described in a final decision document that will be available for public review following the public comment period. After U.S. EPA selects a final cleanup plan for the Vacant Lot site, it will identify any Potentially Responsible Parties (PRPs) and provide them an opportunity to conduct the cleanup. In the event the PRPs are unable to conduct remediation/cleanup activities, U.S. EPA usually initiates their own removal action. Following negotiations with these parties, the cleanup plan will be designed and implemented, either by U.S. EPA, or by the responsible parties under the oversight of U.S. EPA.

Glossary

Lead is a naturally occurring substance found in small amounts in the earth's crust. It is most harmful to children under 6 years of age because their body systems are rapidly developing, and they have increased exposure due to frequent hand to mouth contact. Adults would not be expected to receive significant exposures at this site since lead is not absorbed through the skin. Lead poisoning can result in problems to the nervous system.

Polychlorinated biphenyls (PCBs) are a family of organic (carbon-containing) compounds. PCBs are extremely persistent in the environment; they do not break down into less harmful chemicals over a long period of time. PCBs may enter the food chain and be consumed by humans. If ingested, they are stored in the fatty tissues of animals and humans, and are not extracted with normal body waste. These compounds have no smell or taste and exist as either oily liquids or solids. Health effects that may result from exposure to PCBs include skin irritations (rashes and acne) and irritation to the nose and lungs. Long-term exposure to PCBs can cause liver damage and has been shown to cause cancer in laboratory animals.

Polynuclear aromatic hydrocarbons (PAHs) are a group of semi-volatile compounds that are formed as a result of the incomplete combustion of hydrocarbons. PAHs occur commonly in the environment, originating from both natural and man-made sources; they are often formed as a by-product of plastics, coal, oil, garbage, or other organic substances. Some PAHs are highly toxic and may cause some forms of cancer.

Superfund is the Federal program that operates under the authority of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This law authorizes the Federal government to respond directly to releases (or threatened releases) of hazardous substances that may endanger public health, welfare, or the environment. U.S. EPA is responsible for managing Superfund.

Trichloroethene (TCE) is a chemical which is used as a solvent to remove oils and grease from metal products. TCE is a colorless liquid with an odor similar to ether, and is a manufactured substance which does not occur naturally in the environment. Long term exposure to this family of chemicals is suspected of causing cancer as well as problems of the liver and weakening of the immune system.

Volatile organic compounds (VOCs) are a type organic compound that tend to change from a liquid to a gas at relatively low temperatures when exposed to air. As a result of this tendency, VOCs disappear more rapidly from surface water than from ground water. Since ground water does not usually come in contact with air, VOCs are not easily released and can be present in ground water that is being used for drinking water, posing a threat to human health. Some VOCs are believed to cause cancer in humans.

MAILING LIST

If you did not receive this fact sheet in the mail, you are not on U.S. EPA's mailing list for the Vacant Lot Site. To add your name to the list to receive information concerning the site, please fill out this form, detatch, and mail to:

Noemi Emeric, Community Involvement Coordinator
U.S. EPA Region 5 (P-19J)
77 West Jackson Boulevard
Chicago, IL 60604

Name _____

Affiliation _____

Street Address _____

City, State _____ Zip _____

FOR MORE INFORMATION

If you would like more information concerning the Vacant Lot Site, you may consult the Administrative Record at the Information Repository. The Administrative Record contains information regarding the Vacant Lot Site, as well as Superfund information. The Information Repository has been established at the following location:

North Chicago Public Library
2100 Argonne Drive
North Chicago, Illinois 60064
(847) 689-0125

For additional information about this site, you may contact the following U.S. EPA representatives:

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EPA

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